

## WHAT IS CLAIMED IS:

1. A method for rapid valuation of asset portfolios using a portfolio valuation system, said method comprising the steps of:

valuating assets in a portfolio individually;

listing the asset values individually in relational tables;

5 aggregating to desired groups or tranches for bidding purposes; and

optimizing the bid pricing for desired risk/return tolerance.

2. A method according to Claim 1 wherein said step of valuating assets further comprises the step of subjecting the assets in the portfolio to an iterative and adaptive valuation in which the assets in the portfolio are individually valued.

10 3. A method according to Claim 2 wherein said step of subjecting the assets in the portfolio to an iterative and adaptive valuation further comprises the steps of:

segmenting a portfolio of financial instruments into three valuation portions;

15 fully underwriting a first portion of the asset portfolio;

grouping and sampling underwriting of a second portion of the asset portfolio; and

statistically inferring values for a third portion of the asset portfolio.

20 4. A method according to Claim 3 wherein said step of fully underwriting a first portion further comprises the steps of:

underwriting in a full cash manner to generate a full value table; and

underwriting in a partial cash manner to generate a partial value table.

5. A method according to Claim 3 wherein said step of grouping and sampling underwriting of a second portion of the asset portfolio comprises the steps of:

5 using full sampling procedures for categories of large assets within the portfolio; and

using partial sampling procedures for categories of small or medium assets within the portfolio.

6. A method according to Claim 5 wherein said step of using full sampling procedures comprises the steps of:

sampling one hundred percent of a sample group of assets;

underwriting in full a portion of the sampling group of assets based on a determined commonality within the sampling group.

7. A method according to Claim 6 further comprising the steps of:

generating a full sampling group valuation; and

15 desegregating the full sampling group valuation according to a rule set to produce an individual full sample asset value table.

8. A method according to Claim 5 wherein said step of using partial sampling procedures comprises the steps of:

forming a cluster sample group;

20 sampling one hundred percent of a representative group from within the cluster;

randomly sampling other groups within the cluster; and

determining the values of the remaining group by extrapolating from the cluster sample group.

9. A method according to Claim 8 further comprising the steps of:

re-underwriting at an asset level to produce an alpha credit analyst  
5 table;

asset class adjusting the alpha credit analyst table to produce an  
adjusted credit analyst table; and

selecting individual assets from the adjusted credit analyst table  
according to tranche grouping to produce a partial sampling credit value, for use in  
10 bidding.

10. A method according to Claim 3 wherein said step of  
statistically inferring values for a third portion further comprises the step of utilizing  
both a supervised and an unsupervised learning process and an statistical inferencing  
algorithm to produce an underwriting clusters table which facilitates bid value.

15. A method according to Claim 10 wherein the unsupervised  
learning process further comprises the steps of:

segmenting and classifying assets; and

objectively evaluating the assets based upon underwriting or other  
valuation data feedback.

20. A method according to Claim 9 wherein said step of  
statistically inferring values for a third portion of the asset portfolio comprises the step  
of clustering using fuzzy-C means clustering (FCM) and a composite  
High/Expected/Low/Timing/Risk (HELTR) scoring technique.

25. A method according to Claim 12 further comprising the steps  
of:

segmenting into one category assets deemed to have sufficient commonality for evaluation as a whole; and

segmenting into a second category assets without sufficient commonality for evaluation as a whole.

5           14. A method according to Claim 13 further comprising the steps of:

dividing the second category of assets into clusters; and

dividing the clusters into sub-clusters.

10           15. A method according to Claim 14 further comprising the step of regrouping the sub-clusters into tranches for bidding purposes.

15           16. A portfolio valuation system for rapid valuation of asset portfolios, said system comprising:

a computer configured as a server and further configured with a database of asset portfolios and to enable valuation process analytics;

at least one client system connected to said server through a network, said server configured to:

value assets in a portfolio individually;

list the asset values individually in tables;

aggregate to desired groups or tranches for bidding purposes; and

optimize the bid pricing for desired risk/return tolerance.

20           17. A system according to Claim 16 wherein said server is configured to subject the assets in the portfolio to an iterative and adaptive valuation in which the assets in the portfolio are individually valued.

18. A system according to Claim 17 wherein said server is configured to:

segment a portfolio of financial instruments into three valuation portions;

5 fully underwrite a first portion of the asset portfolio;

group and sample underwrite a second portion of the asset portfolio; and

statistically infer values for a third portion of the asset portfolio.

10 19. A system according to Claim 18 wherein said server is configured to:

underwrite in a full cash manner to generate a full value table; and

underwrite in a partial cash manner to generate a partial value table.

20. A system according to Claim 18 wherein said server is configured to:

15 use full sampling procedures for categories of large assets within the portfolio; and

use partial sampling procedures for categories of small or medium assets within the portfolio.

21. A system according to Claim 20 wherein said server is configured to:

sample one hundred percent of a sample group of assets;

underwrite in full a portion of the sampling group of assets based on a determined commonality within the sampling group.

22. A system according to Claim 21 wherein said server is configured to:

generate a full sampling group valuation; and

5 desegregate the full sampling group valuation according to a rule set to produce an individual full sample asset value table.

23. A system according to Claim 20 wherein said server is configured to:

form a cluster sample group;

10 sample one hundred percent of a representative group from within the cluster;

randomly sample other groups within the cluster; and

15 determine the values of the remaining group by extrapolating from the cluster sample group.

24. A system according to Claim 23 wherein said server is configured to:

re-underwrite at an asset level to produce an alpha credit analyst table;

asset class adjust the alpha credit analyst table to produce an adjusted credit analyst table; and

20 select individual assets from the adjusted credit analyst table according to tranche grouping to produce a partial sampling credit value, for use in bidding.

25. A system according to Claim 18 wherein said server is configured to utilize both a supervised and an unsupervised learning process and an statistical inferencing algorithm to produce an underwriting clusters table.

26. A system according to Claim 25 wherein said server is configured to:

segment and classify assets; and

evaluate the assets based upon data feedback.

5 27. A system according to Claim 24 wherein said server is configured to cluster assets using fuzzy-C means clustering (FCM) and a composite High/Expected/Low/Timing/Risk (HELTR) scoring technique.

10 28. A system according to Claim 27 wherein said server is configured to:

segment into one category assets deemed to have sufficient commonality for evaluation as a whole; and

15 segment into a second category assets without sufficient commonality for evaluation as a whole.

29. A system according to Claim 28 wherein said server is configured to:

divide the second category of assets into clusters; and

divide the clusters into sub-clusters.

30. A system according to Claim 29 wherein said server is configured to regroup the sub-clusters into tranches for bidding purposes.

20 31. A computer for rapid valuation of asset portfolios, said computer including a database of asset portfolios and configured to enable valuation process analytics, said computer programmed to:

value assets in a portfolio individually;

list the asset values individually in tables;

aggregate to desired groups or tranches for bidding purposes; and

optimize the bid pricing for desired risk/return tolerance.

32. A computer according to Claim 31 programmed to subject the

5 assets in the portfolio to an iterative and adaptive valuation in which the assets in the portfolio are individually valued.

33. A computer according to Claim 32 programmed to:

segment a portfolio of financial instruments into three valuation

portions;

10 fully underwrite a first portion of the asset portfolio;

group and sample underwrite a second portion of the asset portfolio;

and

statistically infer values for a third portion of the asset portfolio.

34. A computer according to Claim 33 programmed to:

15 underwrite in a full cash manner to generate a full value table; and

underwrite in a partial cash manner to generate a partial value table.

35. A computer according to Claim 33 programmed to:

use full sampling procedures for categories of large assets within the portfolio; and

20 use partial sampling procedures for categories of small or medium assets within the portfolio.

36. A computer according to Claim 35 programmed to:

sample one hundred percent of a sample group of assets;

underwrite in full a portion of the sampling group of assets based on a determined commonality within the sampling group.

37. A computer according to Claim 36 programmed to:

5 generate a full sampling group valuation; and

desegregate the full sampling group valuation according to a rule set to produce an individual full sample asset value table.

38. A computer according to Claim 35 programmed to:

form a cluster sample group;

10 sample one hundred percent of a representative group from within the

cluster;

randomly sample other groups within the cluster; and

determine the values of the remaining group by extrapolating from the cluster sample group.

15 39. A computer according to Claim 38 programmed to:

re-underwrite at an asset level to produce an alpha credit analyst table;

asset class adjust the alpha credit analyst table to produce an adjusted credit analyst table; and

20 select individual assets from the adjusted credit analyst table according

to tranche grouping to produce a partial sampling credit value, for use in bidding.

40. A computer according to Claim 33 programmed to utilize both a supervised and an unsupervised learning process and an statistical inferencing algorithm to produce an underwriting clusters table.

41. A computer according to Claim 40 programmed to:

segment and classify assets; and

evaluate the assets based upon data feedback.

42. A computer according to Claim 39 programmed to cluster

5 assets using fuzzy-C means clustering (FCM) and a composite  
High/Expected/Low/Timing/Risk (HELTR) scoring technique.

43. A computer according to Claim 42 programmed to:

segment into one category assets deemed to have sufficient  
commonality for evaluation as a whole; and

10 segment into a second category assets without sufficient commonality  
for evaluation as a whole.

44. A computer according to Claim 43 programmed to:

divide the second category of assets into clusters; and

divide the clusters into sub-clusters.

15 45. A computer according to Claim 44 programmed to regroup the  
sub-clusters into tranches for bidding purposes.